

Kentucky's Source Water Protection Program

Robert J. Blair, P.G.

Kentucky Division of Water
Watershed Management Branch

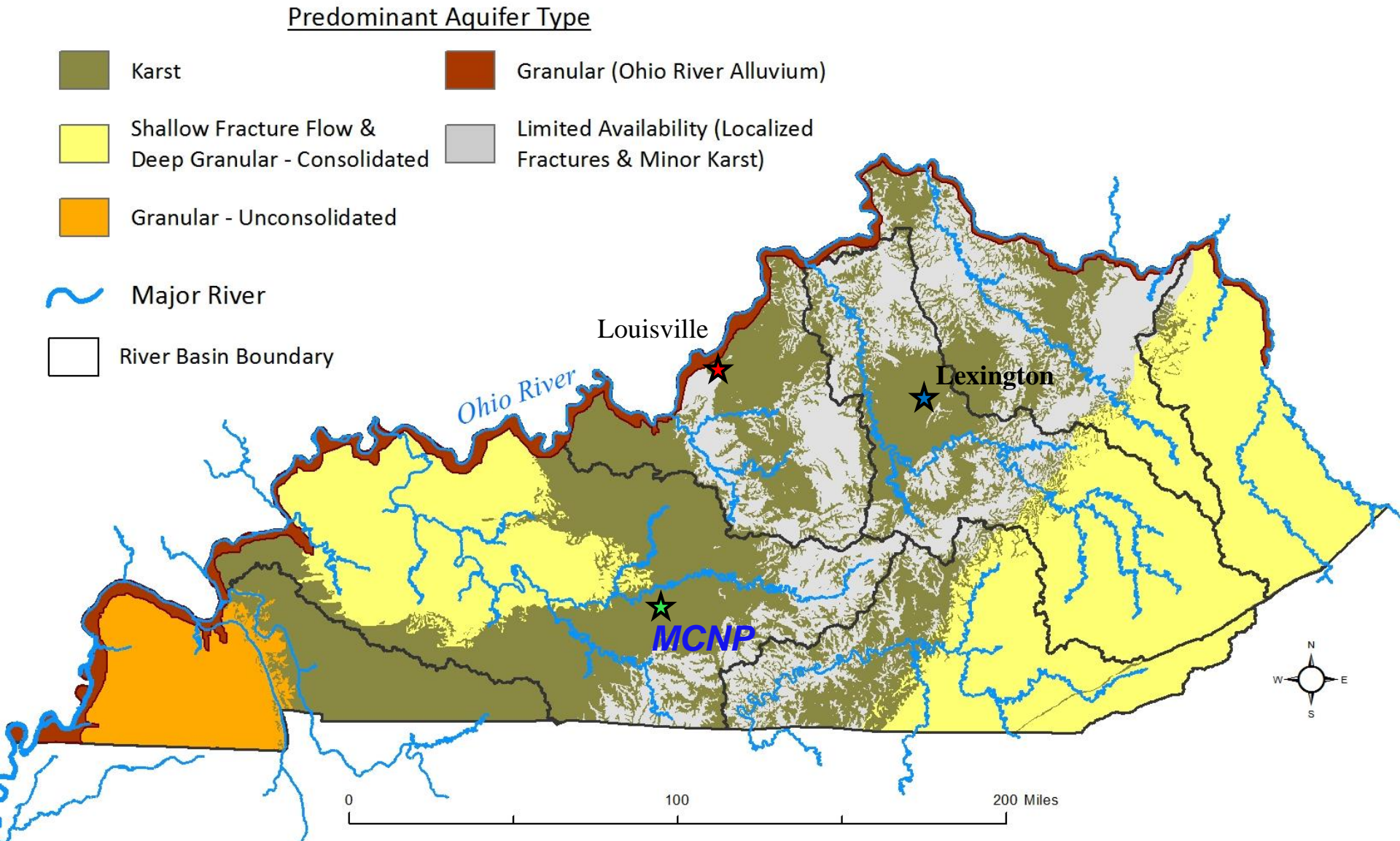
KFB Water Management Working Group/KY Water Resources Board
April 26, 2017



Source Water Protection Planning

- Select Planning Committee – community representation
- Delineate Protection Zones – contributing areas of Water Supply Source(s)
- Contaminant Source Inventory – identify potential contaminant sources in protection areas
- Develop Management Strategies – regulatory, BMP, E & O
- Contingency Planning – drought, contamination, alternatives
- Implementation – management strategies, review & update plan

Generalized Hydrography of Kentucky



KY Public Water Supplies - Groundwater

Wellhead Protection Area

- Zone 1: 180 day Time of Travel
- Zone 2: 10 year Time of Travel
- Zone 3: Hydrologic Boundary

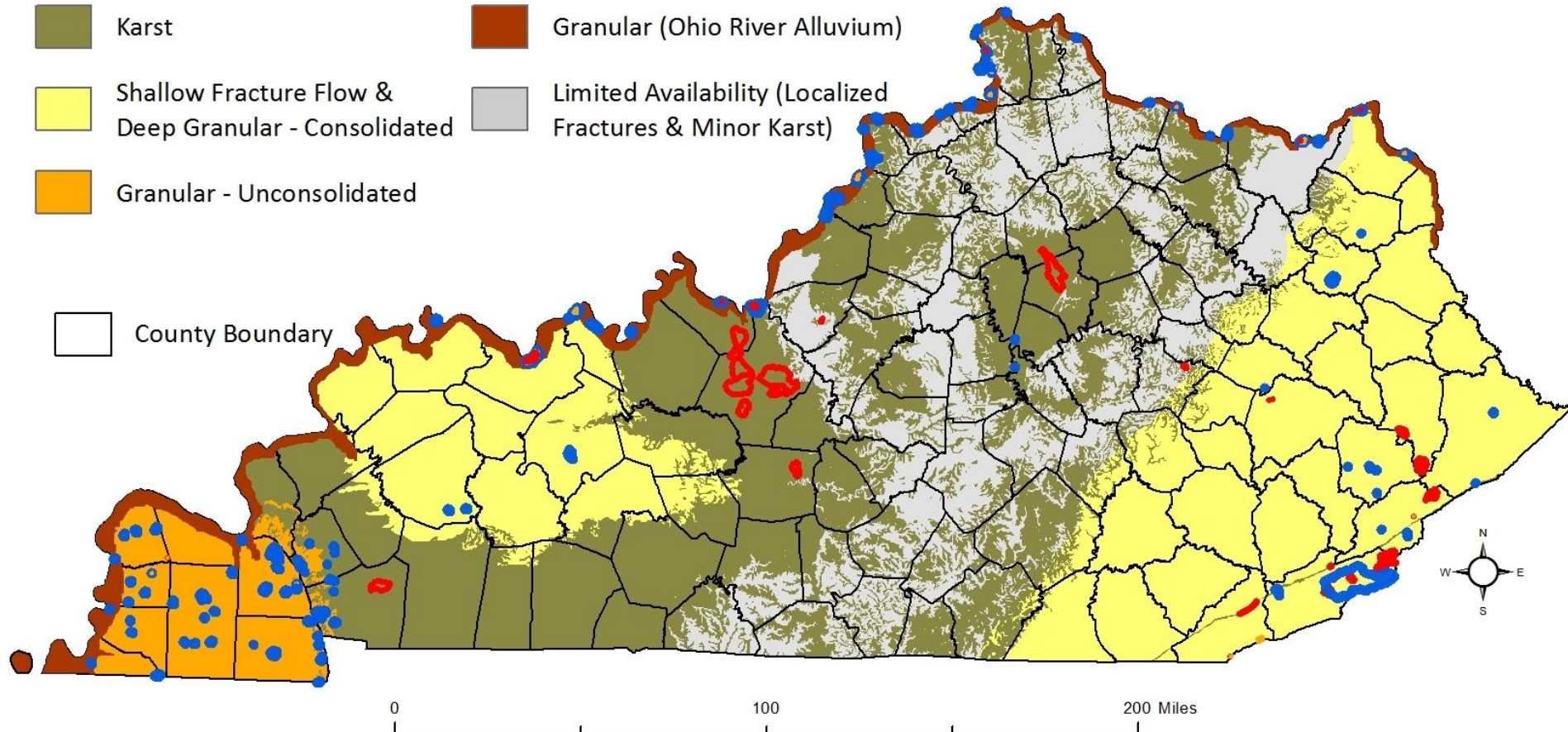
Nearly 100 Water Systems

Population Served ~ 400,000

Predominant Aquifer Type

- Karst
- Granular (Ohio River Alluvium)
- Shallow Fracture Flow & Deep Granular - Consolidated
- Limited Availability (Localized Fractures & Minor Karst)
- Granular - Unconsolidated

County Boundary



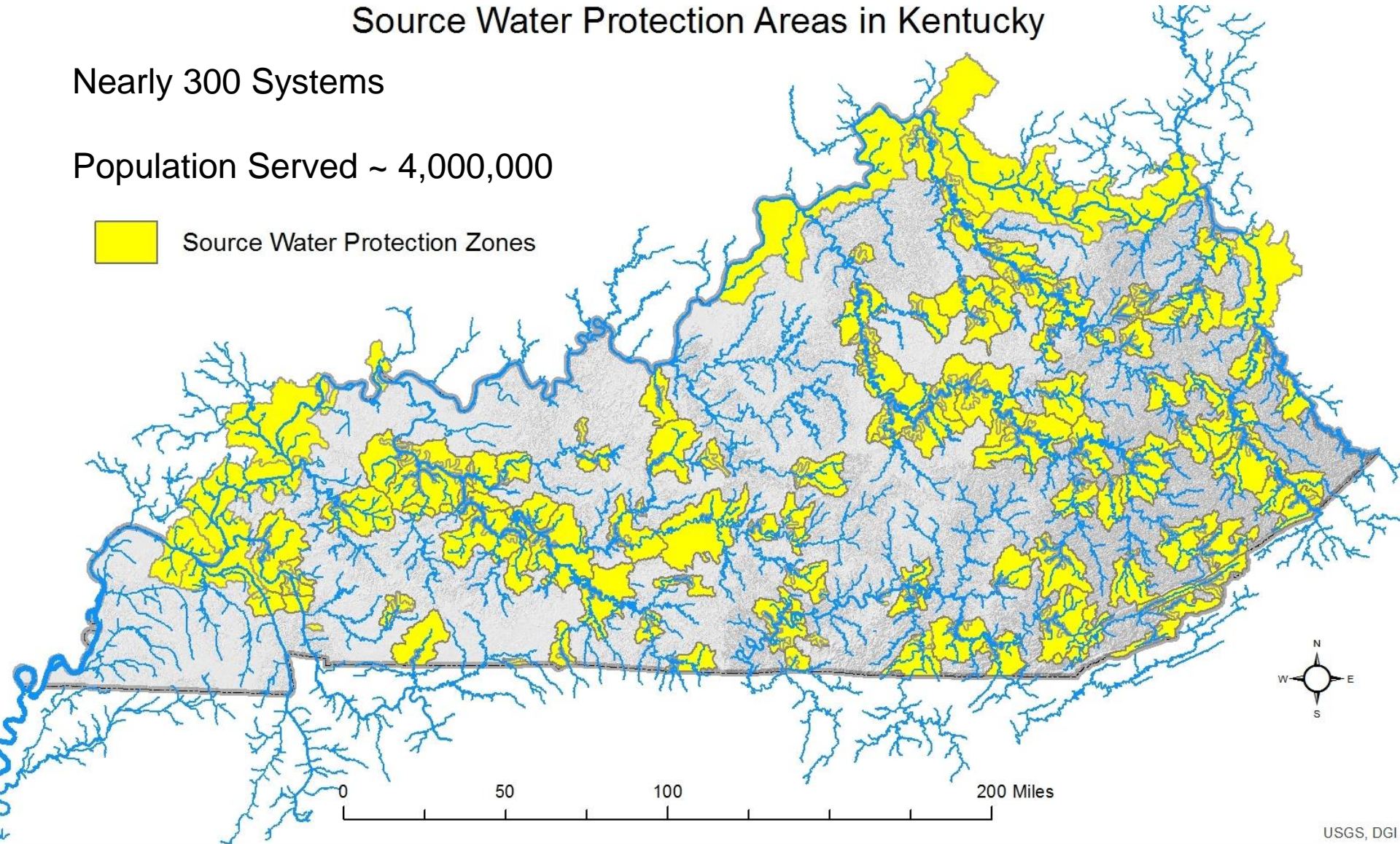
KY Public Water Supplies – Surface Water

Source Water Protection Areas in Kentucky

Nearly 300 Systems

Population Served ~ 4,000,000

 Source Water Protection Zones



Moving Forward with SWP in KY

- Source Water Protection Assistance Program
- Collaboration and Partnerships
 - CWA 319(h) funding and Watershed Plans
 - Area Development Districts – Water Management Councils
 - Individual Water Systems
 - Other agencies
- Evaluate/Update SWP for Surface Water Systems
 - Focus on Management and Implementation
- Promote programs and assistance at workshops and meetings throughout Kentucky

Source Water Protection Assistance Program Projects

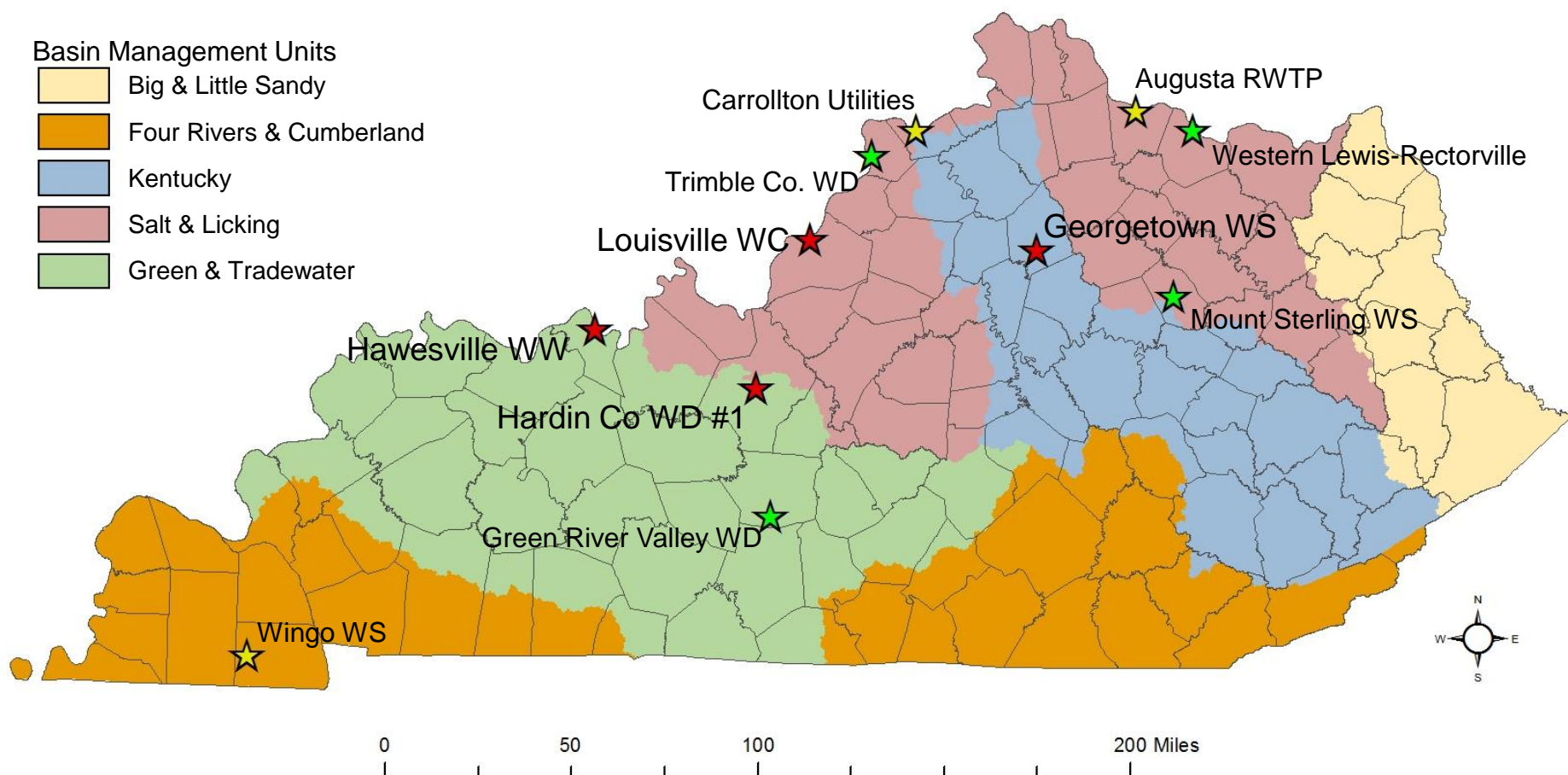
★ 2016: 4 projects @ \$150k

★ 2015: 5 projects @ \$145k

★ 2014: 4 projects @ \$85k

Basin Management Units

- Big & Little Sandy
- Four Rivers & Cumberland
- Kentucky
- Salt & Licking
- Green & Tradewater



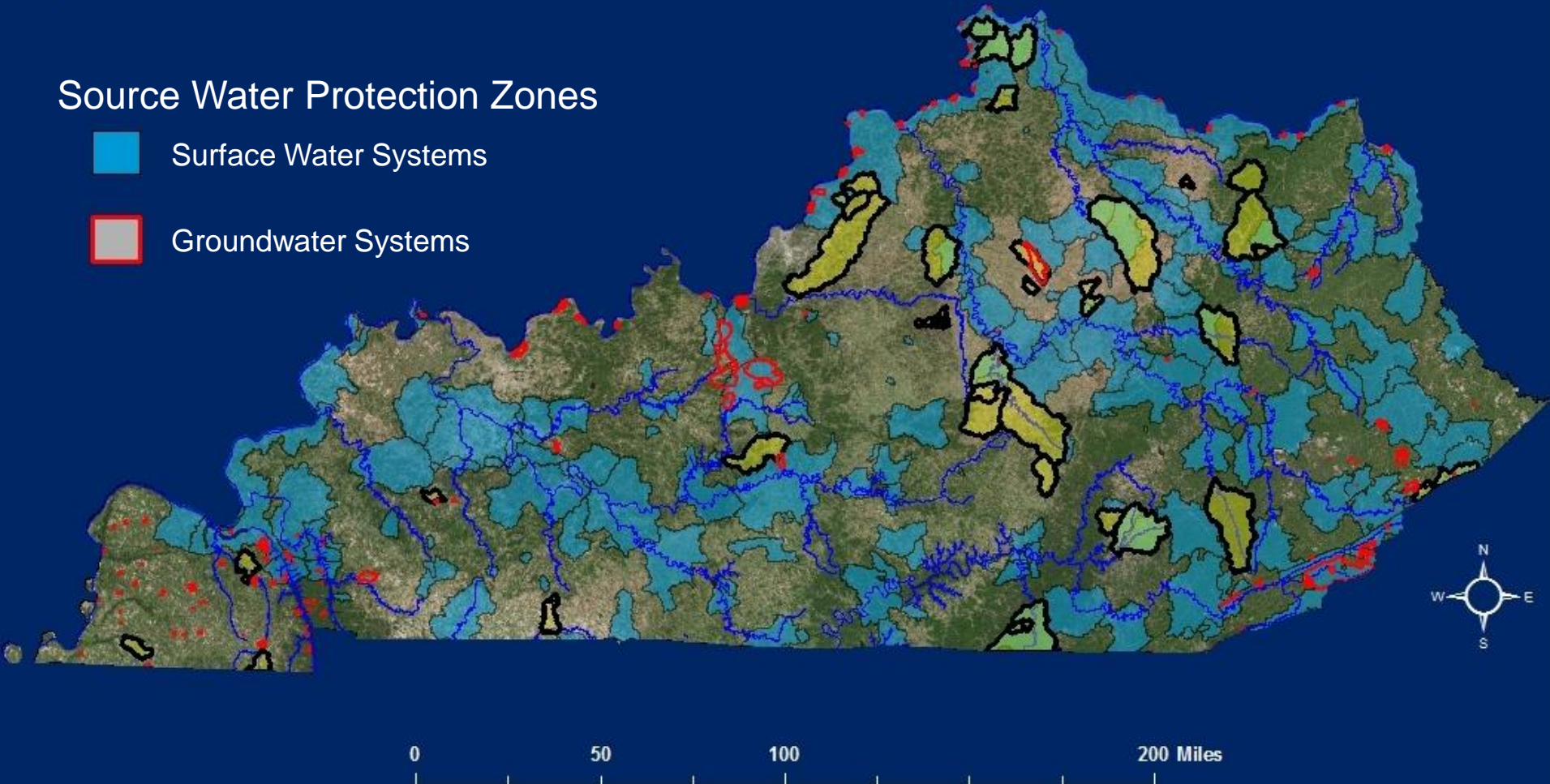
Collaboration and Partnerships

■ Watershed Planning Areas (CWA 319)

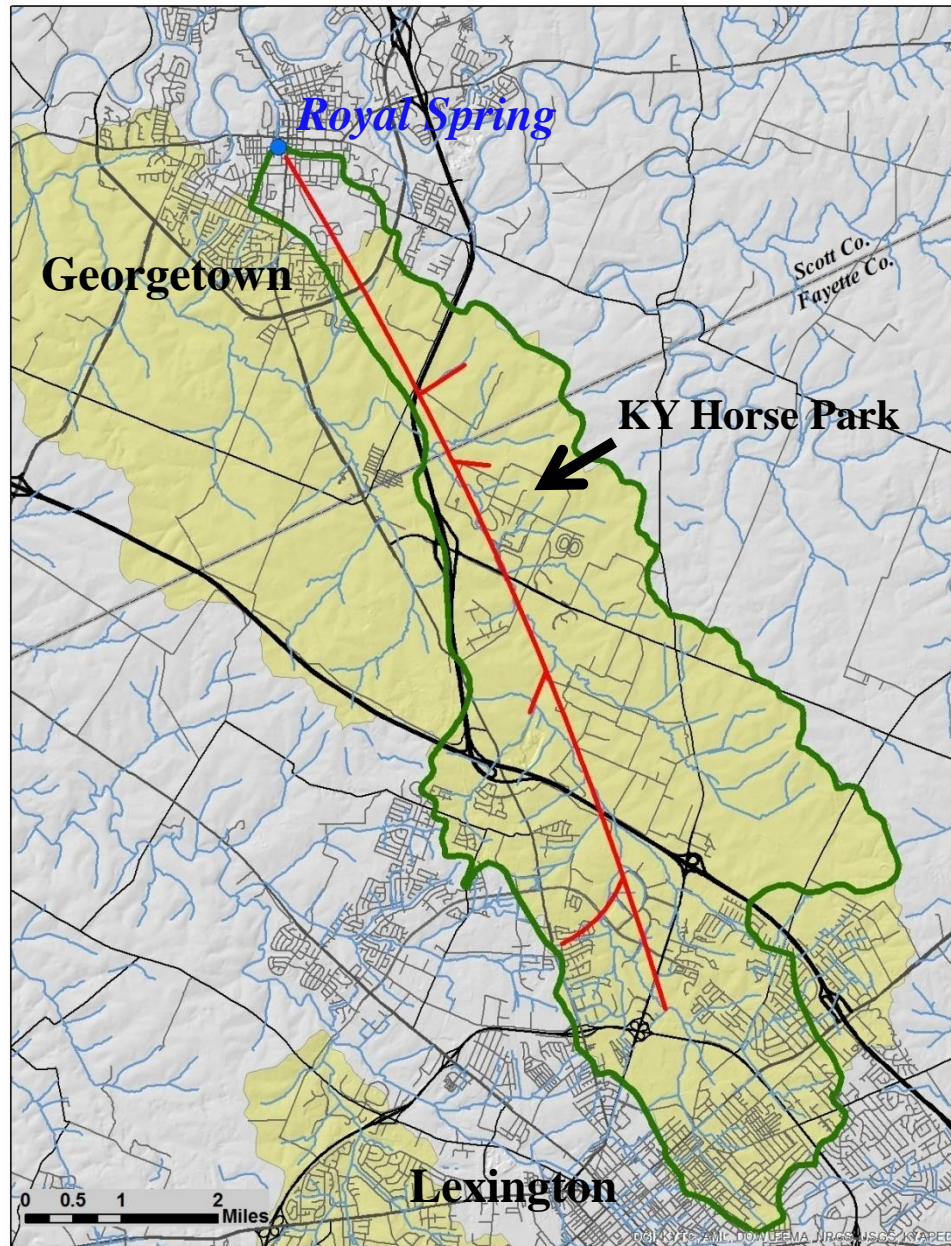
Source Water Protection Zones

■ Surface Water Systems

■ Groundwater Systems



CWA-SWP Collaboration

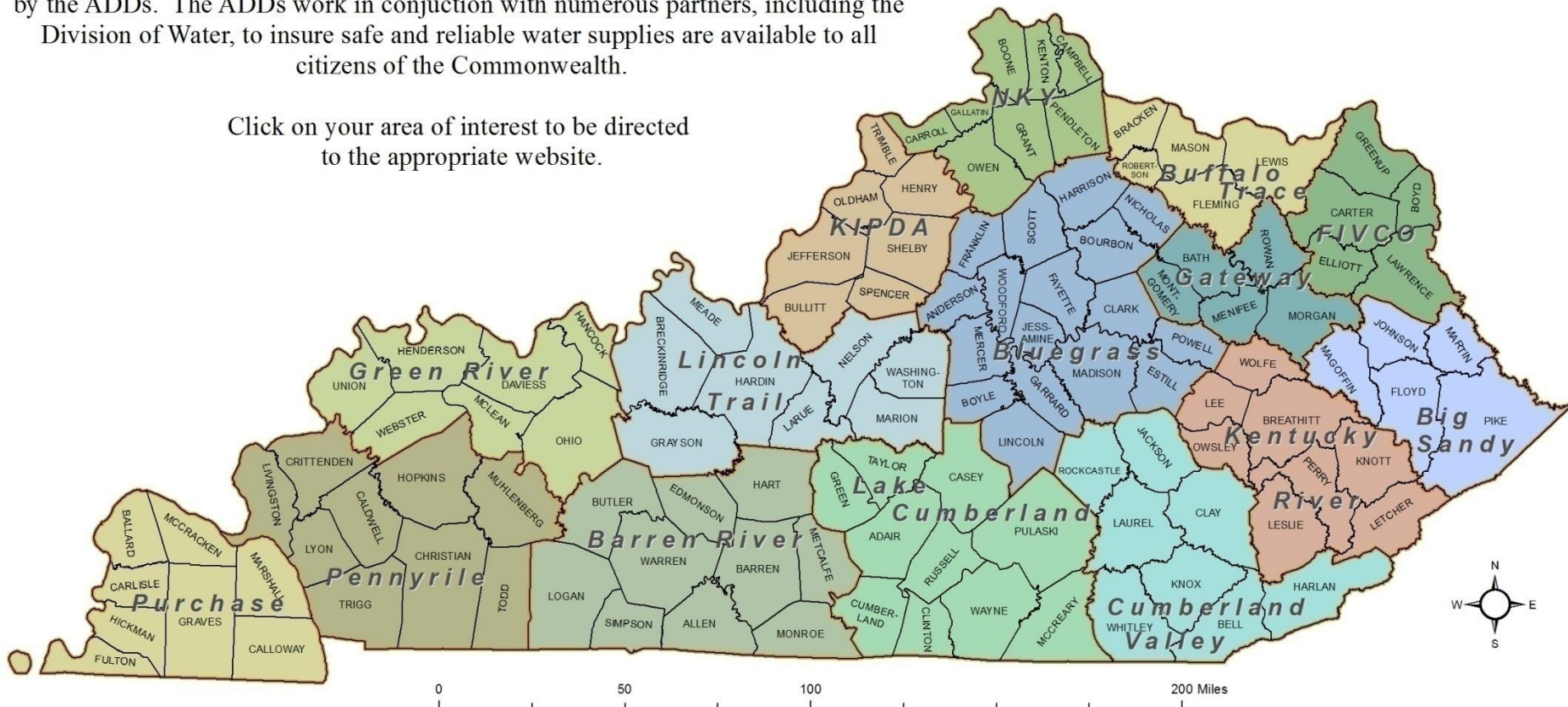


Collaboration and Partnerships

Water Supply Planning and Kentucky Area Development Districts (ADD)

Regional planning for water supplies and source water protection is coordinated by the ADDs. The ADDs work in conjunction with numerous partners, including the Division of Water, to insure safe and reliable water supplies are available to all citizens of the Commonwealth.

Click on your area of interest to be directed to the appropriate website.

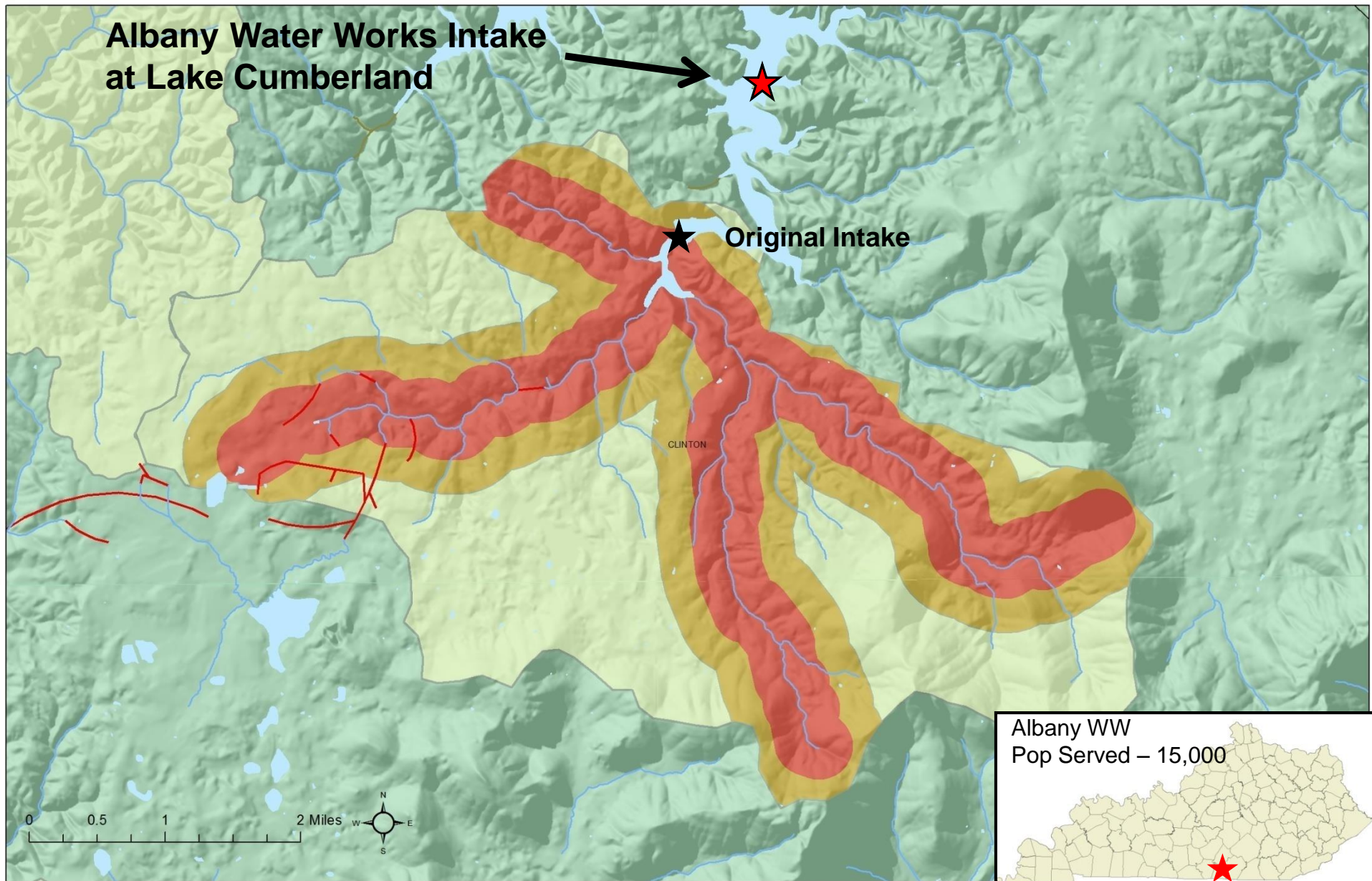


Collaboration and Partnerships

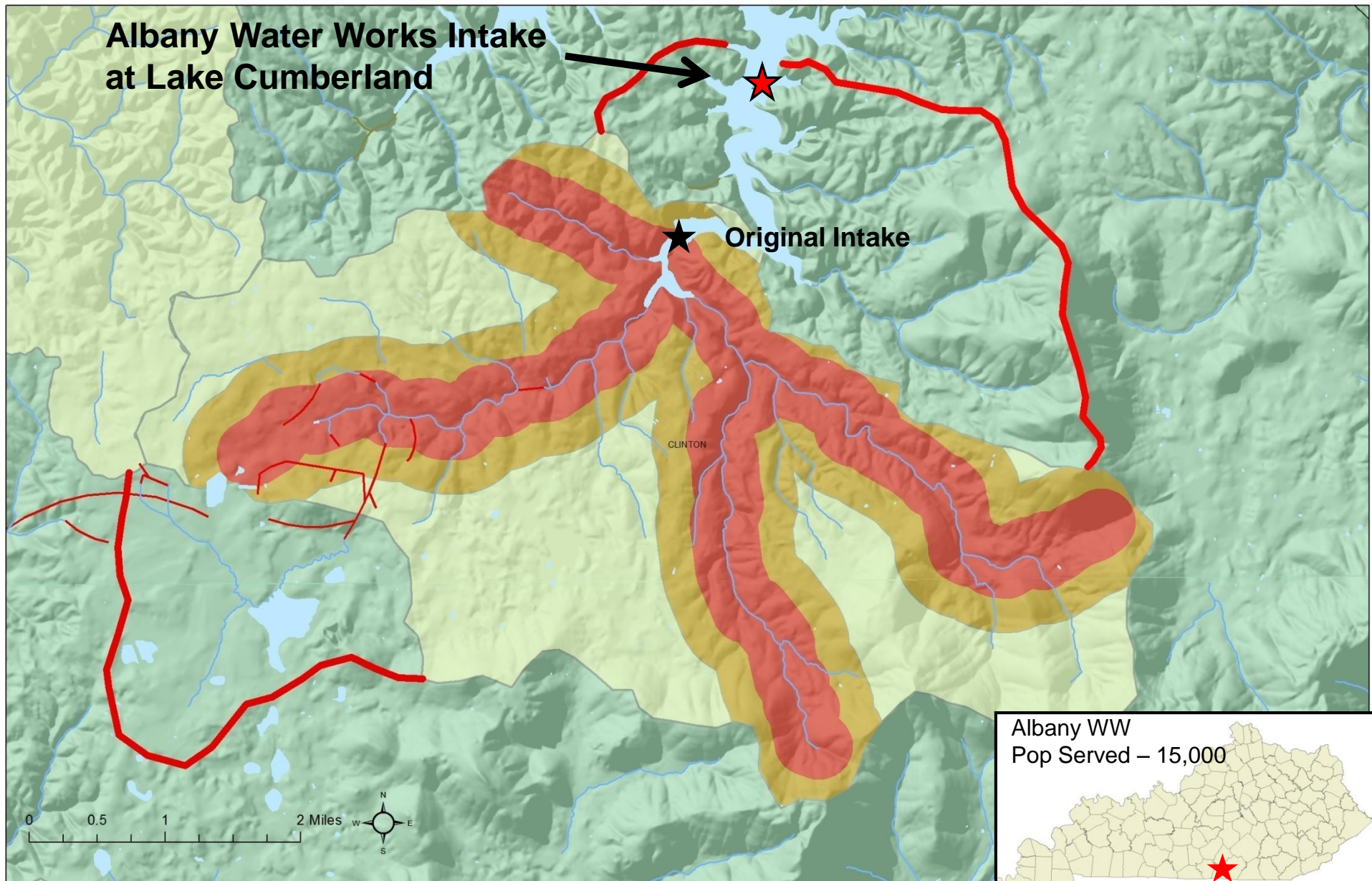
Other government and non-government agencies

- EPA and Region 4 states
 - SWP meeting to share ideas and discuss programs
- Association of State Drinking Water Administrators
 - Information exchange
- Drinking Water Advisory Council
 - Direct interaction with regulated community
- Kentucky Rural Water Association
 - SWP plan development and water system assistance
 - Meetings, trainings and workshops

SWP Evaluation and Updates



SWP Evaluation and Updates



SWP and Agricultural Connections

Monitoring

- Drinking water supply assessments
 - Adequacy and reliability
- Water withdrawal permitting relies on similar info
 - Monthly withdrawal reporting to DOW
- Limited collaboration with KGS Groundwater Level Observation Network

SWP and Agricultural Connections

Analysis of Water Use and Information Needs

- Water system production and demand info
- Technical assistance to rural water systems
 - Often in tandem with KRWA
- Planning for expansion and future demand
- Public awareness and involvement are keys to SWP success

SWP and Agricultural Connections

Water Resource Development and Tech Assistance

- Efficiency programs for new facilities/infrastructure may have some utility
- Technical assistance for SWP may not directly apply, but we are an available resource

SWP and Agricultural Connections

Drought Mitigation and Response

- Part of coordination between water users
- Part of coordination and information exchange within and between agencies
- Technical assistance for SWP may not directly apply, but we are an available resource

SWP and Agricultural Connections

Communications & Outreach

- Major part of our efforts – water suppliers, communities, local/regional governments
- Collaboration and partnerships
- SWP is an element of comprehensive water management planning

SWP and Agricultural Connections

Water Resource Development Act

- Section 7104 – SWP implementation is an eligible use of SRF

Closing Thoughts

- Recent national and local events highlight need for SWP
 - Elk River, WV spill (MCHM)
 - HABs on Ohio River (other DW sources)
 - State/Local land use proposals
 - Increased treatment costs
- Successful SWP through partnerships:
 - Government (federal, state and local)
 - Water Systems
 - Communities
- Unique drinking water supplies require individualized assessment, planning and implementation

Questions?

Rob Blair, SWP Coordinator
KY Division of Water
robert.blair@ky.gov
502-782-6893